

1   **What Is claimed is:**

2

3   1. Network management system  
4       comprising a network management master-agent process  
5       having  
6        a first interface being adapted to communicate with  
7        a network management software module using a  
8        network management protocol format;  
9        a second interface being adapted to communicate  
10      with a plurality of network management sub-agent  
11      processes using an object-oriented interface  
12      description language format;  
13      the network management master-agent process further  
14      comprising a converting unit for converting  
15       a message according to the network management  
16       protocol format into the object-oriented interface  
17       description language format;  
18       a message according to the object-oriented  
19       interface description language format into the  
20       network management protocol format.

21

22   2. Network management system according to claim 1, further  
23      comprising a network management software module coupled to  
24      the network management master-agent process via the first  
25      interface.

26

27   3. Network management system according to claim 2, wherein  
28      the network management software module comprises a graphical  
29      user interface for presenting network management information  
30      to a user.

31

32   4. Network management system according to claim 1, wherein  
33      the network management protocol is the Simple Network  
34      Management Protocol or the Simple Network Management Protocol  
35      Version 2.

36

1 5. Network management system according to claim 1, wherein  
2 the object-oriented interface description language is the  
3 Common Object Request Broker Architecture.

4

5 6. Network management system according to claim 1, further  
6 comprising a plurality of network management sub-agent  
7 processes coupled to the network management master-agent  
8 process via the second interface.

9

10 7. Network management system according to claim 6, further  
11 comprising one Management Information Base for each network  
12 management sub-agent process  
13       wherein each Management Information Base is coupled to the  
14       network management sub-agent process;  
15       wherein each Management Information Base is designed for  
16       specifying the structure of management information in  
17       terms of the objects to be managed (predefined  
18       variables) of an application to be monitored.

19

20 8. Network management system according to claim 7, wherein at  
21 least one of the Management Information Bases is defined in  
22 the Abstract Syntax Notation code.

23

24 9. Network management system according to claim 8, wherein at  
25 least one of the network management sub-agent processes  
26 comprises a further conversion unit for converting data of a  
27 Management Information Base specified by a user in Extensible  
28 Markup Language format into the Abstract Syntax Notation  
29 format.

30

31 10. Network management system according to claim 9, wherein  
32 at least one of the network management agent processes is  
33 operated on a Hewlett-Packard UNIX operating system.

34

35 11. Computer-based method for network management, comprising  
36 the following steps:  
37       Receiving a request message in a network management

1           protocol format from a network management software  
2           module by a network management master-agent process;  
3     Converting the request message from the network management  
4           protocol format into an object-oriented interface  
5           description language format;  
6     Sending the converted request message in the object-  
7           oriented interface description language format to at  
8           least one network management sub-agent process.  
9  
10 12. Computer-based method for network management according to  
11 claim 11, wherein the network management protocol is the  
12 Simple Network Management Protocol or the Simple Network  
13 Management Protocol Version 2.  
14  
15 13. Computer-based method for network management according to  
16 claim 11, wherein the object-oriented interface description  
17 language is the Common Object Request Broker Architecture.  
18  
19 14. Computer-based method for network management according to  
20 claim 11, comprising the further step of determining the sub-  
21 agent process from the plurality of sub-agent processes which  
22 is responsible for the request message, wherein the criterion  
23 for determining the responsible sub-agent process is an  
24 Object Identifier managed by the sub-agent process.  
25  
26 15. Computer-based method for network management according to  
27 claim 14, comprising the further step that data of a  
28 Management Information Base specified by a user in Extensible  
29 Markup Language format is converted by a sub-agent process  
30 into the Abstract Syntax Notation format.  
31  
32 16. Computer-based method for network management according to  
33 claim 11, wherein at least one of the network management  
34 agent processes is operated on a Hewlett-Packard UNIX  
35 operating system.  
36

1 17. Computer-based method for network management, comprising  
2 the following steps:

3 Receiving a response message in an object-oriented  
4 interface description language format from a network  
5 management sub-agent process by a network management  
6 master-agent process;

7 Converting the response message from the object-oriented  
8 interface description language format into a network  
9 management protocol format;

10 Sending the converted response message in the network  
11 management protocol format to a network management  
12 software module.

13

14 18. Computer-based method for network management according to  
15 claim 17, further comprising the following steps to be  
16 carried out before carrying out the steps of claim 17:

```
17 Receiving the value of the Management Information Base  
18 variable from the user application after it processes  
19 the request;
```

20 Sending the response message in the object-oriented  
21 interface description language format to the network  
22 management master-agent process.

23

24 19. Computer-based method for network management according to  
25 claim 18, wherein the network management protocol is the  
26 Simple Network Management Protocol or the Simple Network  
27 Management Protocol Version 2.

28

29 20. Computer-based method for network management according to  
30 claim 17, wherein the object-oriented interface description  
31 language is the Common Object Request Broker Architecture.

32

33 21. Computer-based method for network management according to  
34 claim 18, wherein the Management Information Base is designed  
35 for specifying the structure of management information in  
36 terms of the objects to be managed (predefined variables) of  
37 an application to be monitored.

1 22. Computer-based method for network management according to  
2 claim 18, wherein the Management Information Base is defined  
3 in the Abstract Syntax Notation code.

4

5 23. Computer-based method for network management according to  
6 claim 22, comprising the further step that data of a  
7 Management Information Base specified by a user in Extensible  
8 Markup Language format is converted by a sub-agent process  
9 into the Abstract Syntax Notation format, wherein the further  
10 step is carried out before carrying out the steps of claims  
11 18 and 17.

12

13 24. Computer-based method for network management according to  
14 claim 17, wherein at least one of the network management  
15 agent processes is operated on a Hewlett-Packard UNIX  
16 operating system.

17

90006695-1